

1. A compression-tunable laser apparatus, comprising:
 - a first optical fiber having a core including an active material, a cladding disposed about said core, and a reflective element;
 - a second optical fiber, optically coupled with said first optical fiber, said second optical fiber including
 - a substantially single-mode core characterized by a first refractive index;
 - a cladding layer disposed about said core, said cladding layer characterized by a second refractive index which is lower than said first refractive index;
 - a grating providing a selected reflection at a selected wavelength; and wherein said cladding layer of said second fiber has an outside diameter sufficiently large to enable the optical fiber to resist buckling under compressive loads sufficient to cause compression tuning of said selected wavelength over a range of at least 0.1 nm
2. The compression-tunable laser apparatus of claim 1 wherein said optical coupling of said first and second fibers includes free space transmission of light between said first and second fibers
3. The compression-tunable laser apparatus of claim 1 wherein said first and second optical fibers are one of fusion spliced and butt-coupled.

4. A compression-tunable laser apparatus, comprising:
 - a first optical fiber having a core including an active element, a cladding disposed about said core, and a reflective element;
 - a second optical fiber, optically coupled with said first optical fiber, said second optical fiber including
 - a substantially single-mode core characterized by a first refractive index;
 - a cladding layer disposed about said core, said cladding layer characterized by a second refractive index which is lower than said first refractive index, said cladding layer of said second fiber having an outside diameter which is at least about 125 times the outside diameter of said substantially single mode core; and
 - a grating;
 - whereby compression of second fiber can tune said grating for tuning the wavelength of laser light produced by said laser apparatus.
5. The compression-tunable laser apparatus of claim 4 wherein said optical coupling of said first and second fibers includes free space transmission of light between said first and second fibers
6. The compression-tunable laser apparatus of claim 4 wherein said first and second optical fibers are one of fusion spliced and butt-coupled.

7. A method of fabricating an optical fiber, comprising:
- forming a preform having a cladding disposed about a core material;
 - drawing the preform to reduce the diameter thereof;
 - adding more cladding to the cladding of the preform;
 - drawing the preform to reduce the diameter thereof;
 - adding additional cladding to the cladding of the preform;
 - again drawing the preform to reduce the diameter thereof; and
 - drawing the preform to provide an optical fiber having a substantially single-mode core and a cladding having a diameter that is at least 125 times the diameter of the core; and
- wherein the foregoing are performed in the order recited.